WHAT IS CLAIMED IS:

1. A communication system comprising:

a transmitter having a signal input means, a modulator means for producing m ($m \geq 4$) signal points in a signal space

5   diagram expressed at least in a polar coordinate syst m (r, θ) through modulation of a carrier wave using an input signal fed from the signal input means, and a transmitting means for transmitting a modulated signal modulated in said modulator means, in which said input signal contains a first data

10   stream of n values and a second data stream, said m signal points are divided into n signal point groups, said n values of the first data stream are assigned to specify said n signal point groups respectively, and said second data stream is assigned to specify signal points in each signal point

15   group; and

a receiver having an input means for reception of said modulated signal transmitted from the transmitter, a demodulating means for demodulating said modulated signal into a multi-level signal representing P signal points in a

20   signal space diagram expressed at least in the polar coordinate system (r, θ), and an output means for outputting a signal demodulated by said demodulating means, in which said P signal points are divided into signal point groups of n values, the first data stream of n values is demodulated so

25   as to be assign to said n values of said signal point groups, and the second data stream of P/n values is demodulat d so as to b assigned to P/n signal points of each point group for

reconstruction of data of the first and second data streams.

2. A communication system in accordance with claim 1, wherein said signal points are divided into a plurality of groups in a radius (r) direction of said polar coordinate system to encode said first or second data stream.

3. A communication system in accordance with claim 1, wherein said signal points are divided into a plurality of groups in an angular (θ) direction of said polar coordinate system to encode said first or second data stream.

4. A communication system based on an OFDM system in which a plurality of carriers being quadrate with each other are used for data transmission of a plurality of subchannels, characterized in that

a guard time slot containing no signal, disposed in front of a symbol transmission time slot on time base, is differentiated in each subchannel.

5. A communication system in accordance with claim 4, wherein said subchannels includes a first subchannel transmitting a high-frequency component of a TV signal and a second subchannel transmitting a low-frequency component thereof, in which a guard time slot of said second subchannel is set to be larger than a guard time slot of said first subchannel.

6. A communication system based on an OFDM system in which a plurality of carriers being quadrate with each other are used for data transmission of a plurality of subchannels, characterized in that

a guard time slot containing no signal is disposed in front of a symbol transmission time slot on time base, and a carrier wave interval of said symbol transmission time slot is differentiated in each subchannel.

5   7. A communication system in accordance with claim 6, wherein said subchannels includes a first subchannel transmitting a high-frequency component of a TV signal and a second subchannel transmitting a low-frequency component thereof, in which a carrier wave interval of said second

10   subchannel is set to be larger than a carrier wave interval of said first subchannel.

8. A communication system based on an OFDM system in which a plurality of carriers being quadrate with each other are used for data transmission of a plurality of subchannels,

15   characterized in that

transmission electric power of said carrier is differentiated in each subchannel.

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